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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,235	02/27/2004	Hiroshi Nishikawa	325772034600	4822

7590 05/22/2009
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EXAMINER

ZHU, RICHARD Z

ART UNIT	PAPER NUMBER
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2625

MAIL DATE	DELIVERY MODE
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05/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/787,235	Applicant(s) NISHIKAWA ET AL.	
	Examiner RICHARD Z. ZHU	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement

1. Acknowledgement is made of applicant's amendment made on 04/15/2009. Applicant's submission filed has been entered and made of record.

Status of the Claims

2. Claims 1 and 4-11 are pending.

Response to Applicant's Arguments

3. After careful consideration of applicant's arguments, previous grounds of rejections are withdrawn. However, in light of a new teaching, new grounds of rejections are entered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 4-11 are rejected under 35 USC 103(a) as being unpatentable over ***Takuya (JP 2001-223832 A)*** in view of ***Kitani et al (US 5352883 A)*** and ***Komiyama et al (JP 05-083472 A)***.

Regarding Claim 1, *Takuya* discloses an image reading apparatus, comprising:

a reading transparent member (**Fig 1, translucent reading criteria member 2 and see paragraph 11**);

a reading unit that reads through said reading transparent member an image on an original document that is being conveyed over an original document reading position of said reading transparent member (**Fig 1, reading station P and read means 3, and see paragraph 11 where a manuscript M is being conveyed over reading station P**); and

a spacer that is mounted on said reading transparent member on a surface thereof opposite the side thereof at which said reading unit is disposed and at a position upstream from the original document reading position relative to an original document conveyance direction (**Fig 1, level difference formation member 4 and capture member 5 are mounted on translucent reading criteria member 2 and opposite the side thereof. Reading Station P is disposed at a position upstream from an original document reading position relative to an original document conveyance direction and see Paragraph 15, “manuscript M conveyed in the upstream of the reading station P”**),

wherein the spacer is configured such that height of a downstream end thereof relative to the original document conveyance direction decreases toward the downstream direction (**Fig 1, level difference formation member 4 and capture member 5 are configured such that height of a downstream end thereof relative to the original document conveyance direction decreases toward the downstream direction**).

Takuya does not disclose the spacer is configured such that height of a downstream and thereof relative to the original document conveyance direction decreases in a sloping manner toward the downstream direction.

Kitani is in the same field of endeavor that discloses spacer is configured such that height of a downstream and thereof relative to the original document conveyance direction decreases in a sloping manner toward the downstream direction (**Figs 11-12, guide means 7 and see Col 11, Rows 30-60. Guide Means 7 is the spacer, Document P is the original, Illumination Opening 5 is the read position, Light Transmissive Substrate 1 is the transparent read member**);

wherein the original document is out of contact with the reading transparent member as at least a portion of the original document is conveyed over the original document reading position (**Fig 11, the original document P is out of contact with the light transmissive sensor substrate 1, which is transparent because it is light transmissive, as at least a portion of P is conveyed over the illumination opening 5 or the position document P is being read**) and a trailing edge portion of the original document passes a position very close to or in contact with a sloping surface of the spacer (**Fig 10, a portion of trailing edge portion of P passes a position in contact with sloping surface of guide means 7. Fig 11, guide means 7 has addition layers 118 and 119 to respectively reduce electric static and friction**).

It would've been obvious to one of ordinary skill in the art at the time of the invention to modify the spacer in the configuration of *Kitani*, because it is suggested that such configuration whose flexibility can absorb burrs formed at the edge of a glass platen when a paper medium come in contact with said glass platen (*Kitani*, Col 11, Rows 37-45), whereas the motivation would've been to flexibly convey said paper medium into contact with said glass platen (*Kitani*, Col 11, Rows 30-36).

Regarding Claim 4, *Takuya* discloses an image reading apparatus, comprising:

a reading transparent member (Fig 1, translucent reading criteria member 2 and see paragraph 11);

a reading unit that reads through said reading transparent member an image on an original document that is being conveyed over an original document reading position of said reading transparent member (Fig 1, reading station P and read means 3, and see paragraph 11 where a manuscript M is being conveyed over reading station P); and

a spacer that is mounted on said reading transparent member on a surface thereof opposite the side thereof at which said reading unit is disposed and at a position upstream from the original document reading position relative to an original document conveyance direction (Fig 1, level difference formation member 4 and capture member 5 are mounted on translucent reading criteria member 2 and opposite the side thereof.

Reading Station P is disposed at a position upstream from an original document reading position relative to an original document conveyance direction and see Paragraph 15, "manuscript M conveyed in the upstream of the reading station P"),

wherein said spacer comprises a lower surface member that comes into contact with said reading transparent member (Figs 1-3 and see Paragraph 29, level difference formation member 61 is in contact with glass platen 31) and an upper surface member that comes into contact with the original document during conveyance of the original document (Fig 3, Manuscript M) wherein such members are glued together (Paragraph 16, "a thing which consists of an adhesion object", a translated Japanese term to describe glue, which has an adhesive nature) to form a step configuration (Paragraph 29, level

difference member 61 is stuck on glass platen 31 and see paragraph 16-17, capture member 5 is attachable from level difference member 4 and 61 to form a step configuration, Fig 1. It appears that the different embodiments of the reference are made of similar composition and are structurally related. For example, level difference member 61 corresponds to level difference member 4 and glass platen 31 corresponds to reading criteria member 2, see Paragraph 13. There is a great degree of interchange operability between the embodiments; i.e., element 4 = element 61) where the height of the steps decreases toward a downstream direction (Fig 1, the height of capture member 5 is less than the height of level difference member 4), and said upper surface member is made of a material having both a lower friction coefficient and superior wear-resistance than a material of said lower surface member (Paragraph 29, level difference member composed of materials having low coefficient of friction allowing the conveyance of manuscript M. Paragraph 16, capture member 5 consist of slot material. The reference stated in plain word that level difference member is made of low friction material for the purpose of conveying papers whereas capture member is made of a different material optimized for capturing dirt or burr or foreign materials);

wherein the original document is out of contact with the reading transparent member as at least a portion of the original document is conveyed over the original document reading position (**Drawing 3, Manuscript M is out of contact with translucent reading criteria member**).

Although the reference doesn't quite spell out under the sun that level difference member is made of material that has a lower coefficient of friction than capture member,

logic dictates that this is indeed the case because the reference stated in plain word that level difference member is made of low friction material for the purpose of conveying papers whereas capture member is made of a different material optimized for capturing dirt or burr or foreign materials (**Paragraph 16 and 29**).

Assume for the sake of argument that this is not the case, *Kitani* discloses coating a spacer that conveys paper medium with a low frictional layer 119 to have the effect of stably conveying an original sheet by reducing the friction between said original sheet and the rest of said spacer (**Fig 12, Col 12, Rows 60-69**).

Furthermore, *Takuya* does not disclose a trailing edge portion of the original document passes a position very close to or in contact with a sloping surface of the spacer.

Kitani further discloses wherein the original document is out of contact with the reading transparent member as at least a portion of the original document is conveyed over the original document reading position (**Fig 11, the original document P is out of contact with the light transmissive sensor substrate 1, which is transparent because it is light transmissive, as at least a portion of P is conveyed over the illumination opening 5 or the position document P is being read**) and a trailing edge portion of the original document passes a position very close to or in contact with a sloping surface of the spacer (**Fig 10, a portion of trailing edge portion of P passes a position in contact with sloping surface of guide means 7. Fig 11, guide means 7 has addition layers 118 and 119 to respectively reduce electric static and friction**).

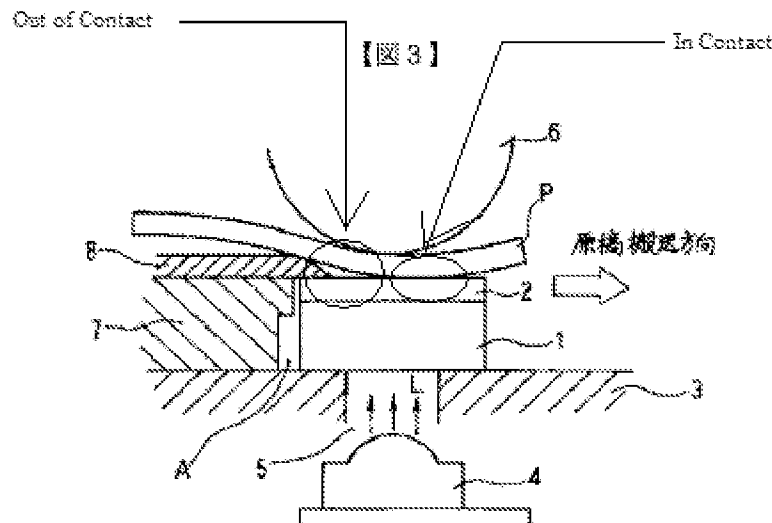
Therefore it would've been obvious to one of ordinary skill in the art at the time of the invention to coat the level difference member that conveys a paper medium with a low

friction layer that is not apply to the capture member in order to have the effect of stably conveying an original sheet by reducing the friction between said original sheet and the rest of said spacer (*Kitani*, Col 12, Rows 60-69) as well as to modify the spacer in the configuration of *Kitani*, because it is suggested that such configuration whose flexibility can absorb burrs formed at the edge of a glass platen when a paper medium come in contact with said glass platen (*Kitani*, Col 11, Rows 37-45), whereas the motivation would've been to flexibly convey said paper medium into contact with said glass platen (*Kitani*, Col 11, Rows 30-36).

Regarding Claims 1 and 4, *Takuya* as modified by *Kitani* does not disclose the spacer is configured to cause a first portion of the original document to be out of contact with the reading transparent member at a location over the original document reading position and a second portion of the original document to be in contact with the reading transparent member at a location downstream from the original document reading position relative to the original document conveyance direction.

Komiyama discloses a shockingly similar spacer taught by *Kitani* (**Figs 3-7, coat member 8**) wherein the spacer is configured to cause a first portion of an original document to be out of contact with the reading transparent member at a location over the original document reading position (**Any of Figs 3-7, it can be observed that a portion of original P is out of contact with reading transparent members 1+2 over document reading position 5**) and a second portion of the original document to be in contact with the reading transparent member at a location downstream from the original document reading position relative to the original document conveyance direction (**Any of Figs 3-7, a portion of**

original P, downstream from the portion that is out of contact, is in contact with reading transparent member 2).



It would've been obvious to one of ordinary skill in the art at the time of the invention to adopt this configuration of spacer such that degraded S/N ratio and paper jam can be prevented (See Abstract of *Komiyama*).

Regarding Claim 5, Takuya discloses wherein thickness of said upper surface member is larger than the thickness of said lower surface member (**Fig 1, perceived height level difference formation member 4 and capture member 5**).

Although the reference does not disclose the upper surface member being .4 mm and lower surface member being .25mm, however MPEP 2144.05 states that “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation”. See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (**Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to**

be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.) and In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable there over because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions).

Therefore it would've been well within the skill of one of ordinary skill in the art at the time of the invention to discover the optimal thickness of upper surface member or level difference member and the lower surface member or capture member through routine experimentation.

Regarding Claim 6, *Takuya* discloses wherein a downstream end of said lower surface member relative to the original document conveyance direction protrudes from beyond that of said upper surface member in the downstream direction (Fig 1, the width of capture member 5).

Although the reference does not disclose that the lower surface member protrudes from beyond that of said upper surface member in the downstream direction by 1mm, it would've been well within the skill of one of ordinary skill in the art to determine the optimal protrusion through routine experimentation for the rationales set forth above.

Regarding Claim 7, *Takuya* discloses wherein said reading position is placed at a position from the downstream end of said lower surface member toward the downstream

direction (**Fig 1, distance between translucent reading criteria member 2 and capture member 5**).

Although the reference does not disclose that said reading position is placed at 3mm from the downstream, it would've been well within the skill of one of ordinary skill in the art to determine the optimal position through routine experimentation for the rationales set forth above.

Regarding Claim 8, *Takuya* discloses wherein there is an interval between said reading transparent member and an original document conveyance path at said original document reading position (**Fig 1, the interval between manuscript M and translucent reading criteria member 2**).

Although the reference does not disclose it is .2mm from the downstream, it would've been well within the skill of one of ordinary skill in the art to determine the optimal interval through routine experimentation for the rationales set forth above.

Regarding Claim 9, *Takuya* discloses wherein said upper surface member is formed by a film made of high-polymer polyethylene (**Paragraph 29, composition of level difference formation member comprises polyethylene, fluorine resin “fluororesin, resin made of fluorine and carbon”, which is a species of genus polyester family of synthetic fibers**), while said lower surface member is formed by a film made of slot material (**Paragraph 16**).

Regarding Claim 10, *Takuya* discloses wherein said upper surface member is formed by a film made of fluorine resin (**Paragraph 29, composition of level difference formation member comprises polyethylene, fluorine resin “fluororesin, resin made of**

fluorine and carbon”, which is a species of genus polyester family of synthetic fibers),
while said lower surface member is formed by a film made of slot material (**Paragraph 16**).

The reference does not disclose the lower surface member or the capture member be made of polyester. *Kitani* discloses a spacer underneath the coated material 119 be made of polyester (**Col 7, Rows 21-27**).

Therefore it would've been obvious to one of ordinary skill in the art at the time of the invention to make the lower surface member or capture member with polyester having the effect of a greater friction that can capture foreign material from the conveyed paper medium.

Regarding Claim 11, *Takuya* discloses a spacer (Fig 1, level difference formation member 4) to be used for an image reading apparatus which has a reading transparent member (Fig 1, translucent reading criteria member 2) and a reading unit (Fig 1, reading station P and read means 3) that reads through said reading transparent member an image of an original document that is being conveyed over an original document reading position of said reading transparent member (Paragraph 11),

wherein said spacer is mounted on said reading transparent member on a surface thereof opposite the side thereof at which said reading unit is disposed and at a position upstream from the original document reading position relative to an original document conveyance direction (**Fig 1, level difference formation member 4 is mounted on translucent reading criteria member 2 and opposite the side thereof. Reading Station P is disposed at a position upstream from an original document reading position relative**

to an original document conveyance direction and see Paragraph 15, “manuscript M conveyed in the upstream of the reading station P”),

wherein said spacer is configured such that height of a downstream end thereof relative to the original document conveyance direction decreases toward the downstream direction (**Fig 1, level difference formation member 4 is configured such that height of a downstream end thereof relative to the original document conveyance direction decreases toward the downstream direction**);

wherein the original document is out of contact with the reading transparent member as at least a portion of the original document is conveyed over the original document reading position (**Drawing 3, Manuscript M is out of contact with translucent reading criteria member**).

Takuya does not disclose the spacer is configured such that height of a downstream and thereof relative to the original document conveyance direction decreases in a sloping manner toward the downstream direction and a trailing edge portion of the original document passes a position very close to or in contact with a sloping surface of the spacer..

Kitani is in the same field of endeavor that discloses spacer is configured such that height of a downstream and thereof relative to the original document conveyance direction decreases in a sloping manner toward the downstream direction (**Figs 11-12, guide means 7 and see Col 11, Rows 30-60**).

Kitani further discloses wherein the original document is out of contact with the reading transparent member as at least a portion of the original document is conveyed over the original document reading position (**Fig 11, the original document P is out of contact**

with the light transmissive sensor substrate 1, which is transparent because it is light transmissive, as at least a portion of P is conveyed over the illumination opening 5 or the position document P is being read) and a trailing edge portion of the original document passes a position very close to or in contact with a sloping surface of the spacer (Fig 10, a portion of trailing edge portion of P passes a position in contact with sloping surface of guide means 7. Fig 11, guide means 7 has addition layers 118 and 119 to respectively reduce electric static and friction).

It would've been obvious to one of ordinary skill in the art at the time of the invention to modify the spacer in the configuration of *Kitani*, because it is suggested that such configuration whose flexibility can absorb burrs formed at the edge of a glass platen when a paper medium come in contact with said glass platen (*Kitani*, Col 11, Rows 37-45), whereas the motivation would've been to flexibly convey said paper medium into contact with said glass platen (*Kitani*, Col 11, Rows 30-36).

Takuya as modified by *Kitani* does not disclose the spacer is configured to cause a first portion of the original document to be out of contact with the reading transparent member at a location over the original document reading position and a second portion of the original document to be in contact with the reading transparent member at a location downstream from the original document reading position relative to the original document conveyance direction.

However, *Komiyama* discloses such spacer as noted in the rejections of Claims 1 and 4. Therefore, It would've been obvious to one of ordinary skill in the art at the time of the

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invention to adopt this configuration of spacer such that degraded S/N ratio and paper jam can be prevented (See **Abstract of Komiyama**).

Conclusion

6. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Richard Z. Zhu whose telephone number is 571-270-1587 or examiner's supervisor King Y. Poon whose telephone number is 571-272-7440. Examiner Richard Zhu can normally be reached on Monday through Thursday, 6:30 - 5:00.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information

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RZ²
05/21/2009

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